

Claims

Ans
D1 1. A drive arrangement for at least one auxiliary system of a motor vehicle, having an internal combustion engine, at least one supplementary motor, and a gear, characterized in that the gear (16) is a planetary gear (32), which is operatively connected to the engine (12) and the at least one supplementary motor (13), each via a respective input shaft (18, 20), and to the auxiliary system (22) via an output shaft (24).

2. The drive arrangement of claim 1,
characterized in that the supplementary motor (13) is a
second internal combustion engine.

3. The drive arrangement of claim 1,
characterized in that the supplementary motor (13) is an
electric machine (14).

4. The drive arrangement of claim 3,
characterized in that the electric machine (14) is a
starter generator of the internal combustion engine
(12).

5. The drive arrangement of one of claims 2 ~~2~~, characterized in that a control unit (30) is assigned to the drive arrangement (10) and detects an rpm (50) of the output shaft (24) and governs the supplementary motor (13) as a function of the rpm (50).

Sup 1-7 6. The drive arrangement of claim 5,
characterized in that the control unit (30) includes a
sensor (26), which measures the rpm (50) of the output

shaft.

Sub
E17

claim 1

7. The drive arrangement of ~~one of the foregoing~~ claims, characterized in that a sun wheel (34) of the planetary gear (32) is connected in a manner fixed against rotation to the input shaft (20) of the supplementary motor (14), and a carrier (36) for at least one planet wheel (38) is connected to the input shaft (18) of the engine (12).

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claim 1

8. The drive arrangement of ~~one of the foregoing~~ claims, characterized in that the auxiliary system (22) is a climate control compressor (70).

9. The drive arrangement of claim 8, characterized in that a spur gear stage and/or a reversible step-up gear precedes the climate control compressor (70).

10. The drive arrangement of claim 2, characterized in that the auxiliary system (22) is a generator.

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Sub
E17 11. The drive arrangement of ~~one or more of the foregoing claims~~, characterized in that a relatively small electric machine (14) is used, which at a moderate power requirement makes a wide governing range possible.

12. The drive arrangement of claim 3, characterized in that the planetary gear (32), the electric machine (E1), and the output shaft (24) are components of a vehicle transmission (74).

Sub
D27

13. A method for operating a drive arrangement

for at least one auxiliary system of a motor vehicle, having an internal combustion engine, at least one supplementary motor and a gear, characterized in that

5 a) the gear (16) is a planetary gear (32) with at least two input shafts (18, 20) and at least one output shaft (24), and a torque is transmitted from the engine (12) and the at least one supplementary motor (13) via a respective one of the input shafts (18, 20), to the output shaft (24) and subsequently to the auxiliary system (22); and

10 b) a control unit (30) is assigned to the drive arrangement (10) and detects an rpm (50) of the output shaft (24) and governs the supplementary motor (13) as a function of the rpm (50).

Sub P1 14. The method of claim 13, characterized in that a set-point value or a set-point range for the rpm (50) of the output shaft (24) is specified to the control unit (30).

5 15. The method of claim 14, characterized in that the supplementary motor (13) is an electric machine (14), which can also be operated as a generator or electric brake, and if the result of the torque transmitted by the engine (12) is an rpm (50) that is above the set-point value or set-point range for the rpm (50) of the output shaft (24), the electric machine (14) is operated as a generator.

16. The method of one of claims 13-15, characterized in that the torque of the supplementary motor (13) is increased if a power requirement to the

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engine (12) is made as a consequence of a starting or acceleration event of the motor vehicle.

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17. The method of one of claims 13-16, characterized in that the auxiliary system (22) is a climate control compressor (70), and the supplementary motor (13) is a first electric machine (E1) of a vehicle transmission (74), and as a function of a driving situation and an operating state of the engine (12), the following operating modes can be achieved:

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- if the vehicle is in motion and the engine (12) is in operation, the drive of the climate control compressor (70) is effected mechanically;

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- if the vehicle is in motion and the engine (12) is off (for example during braking or when centrifugal energy is being utilized), the drive of the climate control compressor (70) is effected mechanically;

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- if the vehicle is stopped and the engine (12) is turned off, the drive of the climate control compressor (70) is effected via the first electric machine (E1), idling having first been selected by a gear controller 72; and

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- if the vehicle is stopped and the engine (12) is in operation, the drive of the climate control compressor (70) is effected mechanically and electrically, idling having previously been selected by the transmission converter (72).